

## REMARKS

Claims 1-13 are pending in the application. The Examiner has rejected claims 2-5, 7 and 12-13 under 35 U.S.C. §112 as being indefinite. The Examiner has rejected claims 1-5, 8 and 12-13 under 35 U.S.C. §103(a) as being unpatentable over Low (U.S. Patent No. 3789920, hereafter "Low") in view of Krolczek et al. (U.S. Patent No. 6,382,309, hereafter "Krolczek"). The Examiner states that claims 9-11 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In regards to the rejection under 35 U.S.C. §112, claim 2 has been canceled, claims 7 and 12 have been modified to correct typos.

In regards to the rejection under 35 U.S.C. §103(a) as being unpatentable over Low in view of Krolczek, Low discloses an hermetically sealed tubular having a tubular mesh wick with a wick restraint formed as an elongated and radially expanded tubular helix concentrically related to the wick. Meantime, Krolczek discloses a liquid superheat tolerant wick to reduce back-conduction problem occurring in the traditional heat pipe. Although both prior art are inventions relating to wick structure used for the heat pipe. Nevertheless, an important distinction between Krolczek's liquid superheated tolerant wick and wicks used in Low is that the central flow channel is eliminated to promote nucleation suppression in Krolczek. (Krolczek column 9, lines 19-22 and Figures 4 and 5). In fact, Figure 4 (the diagram is also displayed on the front page of the Krolczek's issued patent) illustrates an example the liquid superheat tolerant wick structure, which the whole porous block of wick will fill up the interior space of the tubular member and no room left and no need to use a wick restraint as Low suggested. Low's heat pipe as well as the present invention use a central flow channel and the surrounding wick in the tubular member, where a wick restraint or a support member is needed to hold the wick closely in contact with the inner wall of the tubular member. On the contrary, Krolczek teaches away of using such central flow channel design and will not able to use any

wick restraint or a support member. Therefore, a skilled person in the heat pipe field will not combined Low and Kroliczek together.

Moreover, The present invention discloses using special designed support member(s) for the supporting of the wick and, in addition, because the present invention uses "a wick structure having a base portion and a surrounding portion... The base portion is attached to the inner surface of the bottom portion" (Patent application page 3, line 21-24), so the bottom portion end of the tubular member of the current invention can be used as a heat input surface. In another word, the bottom portion end can be attached directly to a heat generating source working as a heat input surface. Neither Low or Kroliczek discloses or teaches such a feature.

"When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the references." In re Rouffet, 149 F.3d 1350, 1355 (Fed. Cir. 1998). Stated another way, the prior art as a whole must "suggest the desirability" of the combination. In re Beattie, 974 F.2d 1309, 1311 (Fed. Cir. 1992) (internal quotation omitted); Winner Int'l Royalty Corp. v. Wang, 202 F.3d 1340 (Fed. Cir. 2000) ("Trade-offs often concern what is feasible, not what is, on balance, desirable. Motivation to combine requires the latter." (emphasis added)). The source of the teaching, suggestion, or motivation may be "the nature of the problem," "the teachings of the pertinent references," or "the ordinary knowledge of those skilled in the art." In re Rouffet, 149 F.3d at 1355.

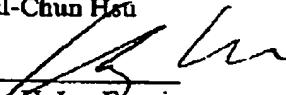
Therefore, Applicant respectfully submits that it would not be obvious to a skilled person in the heat pipe field to combine Low with Kroliczek especially Kroliczak teaches away of using a central flow channel type heat pipe design as Low and the present invention do.

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Focus on the element of "the bottom portion can be used as a heat input surface" of claim 1, Applicant respectfully submits that there is no teaching, suggestion or motivation within the prior art to combine the prior art as the combination of features recited in Applicant's claims.

claims, he is respectfully requested to contact the undersigned at (610) 446-5886. For the reasons stated above, Applicants respectfully assert that the pending claims are in condition for allowance. Reconsideration and allowance of the pending claims are respectfully requested.

Respectfully submitted,

Hui-Chun Hsu  
By   
Kao H. Lu, Esquire  
Registration No. 43,761  
(610) 446-5886

686 Lawson Ave  
Havertown, Pa 19083